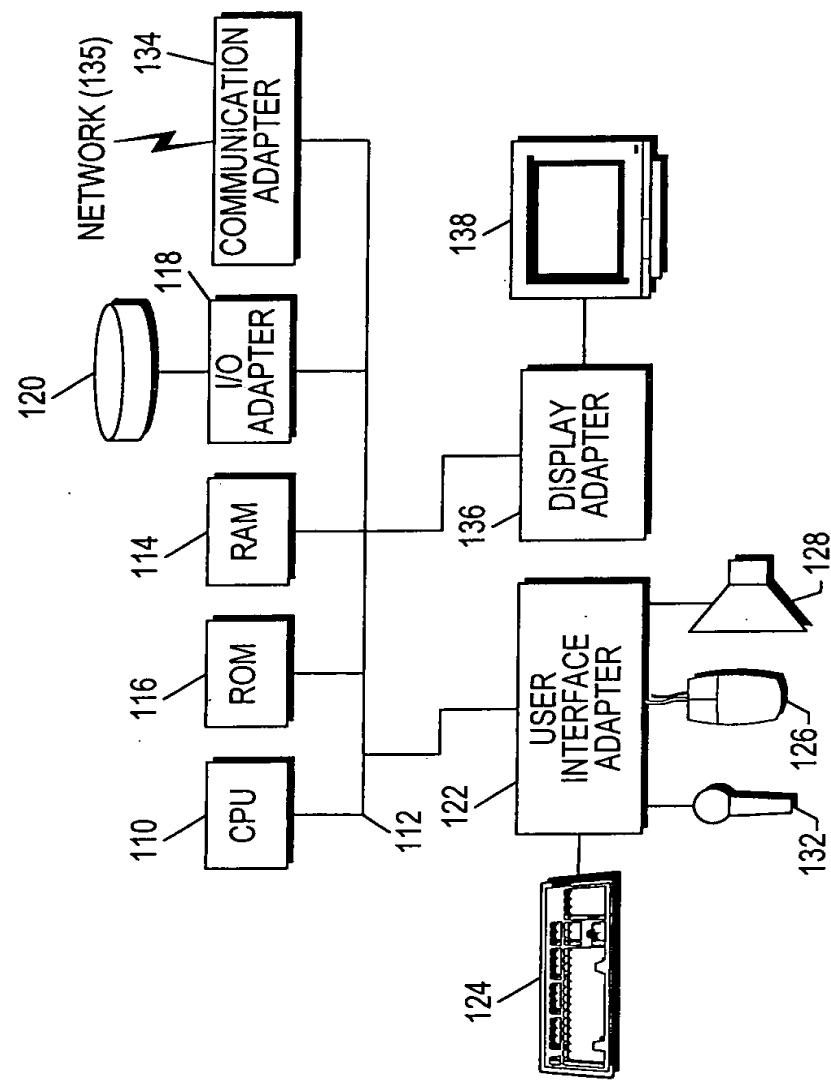


Figure 1



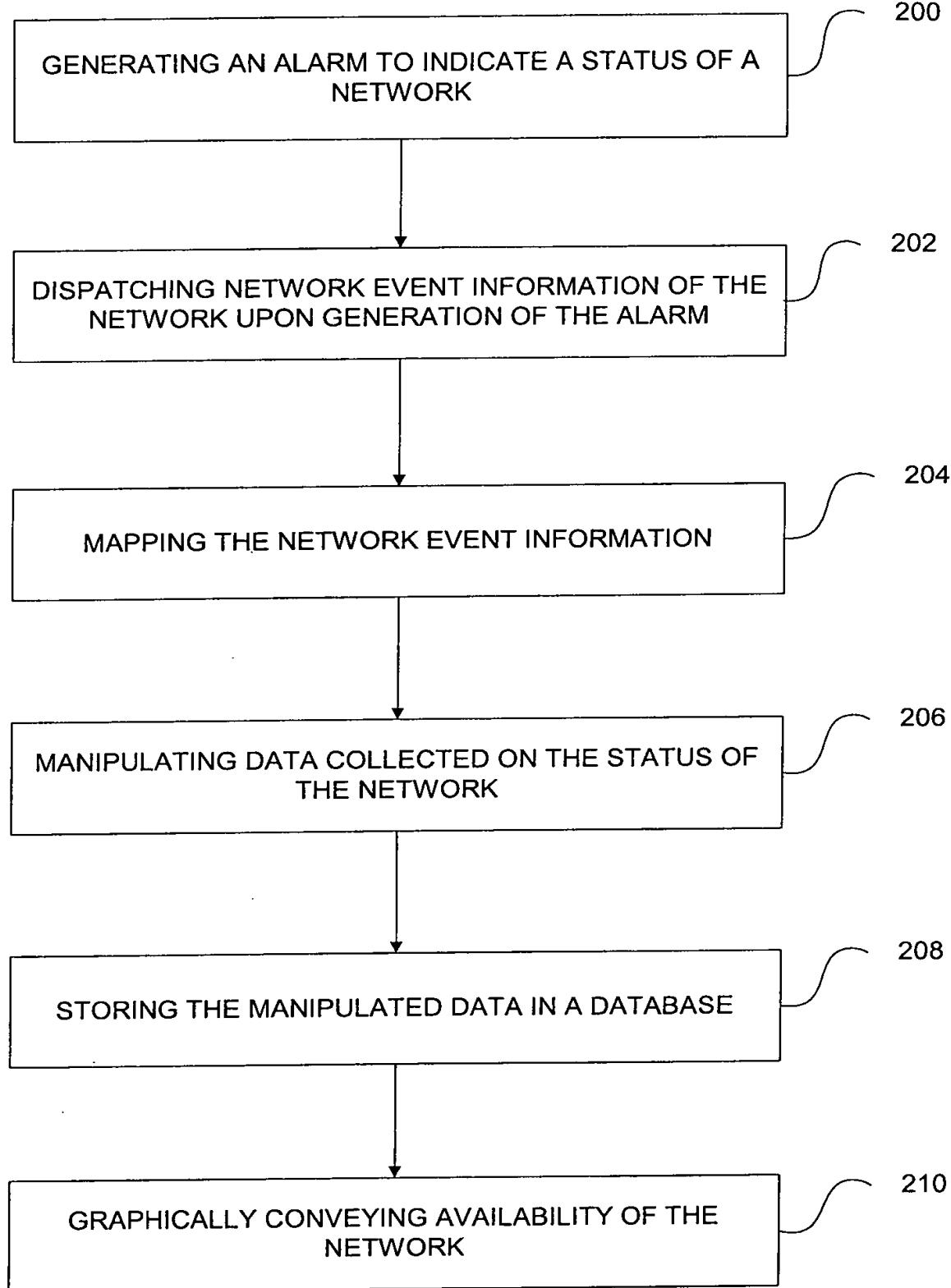


Figure 2

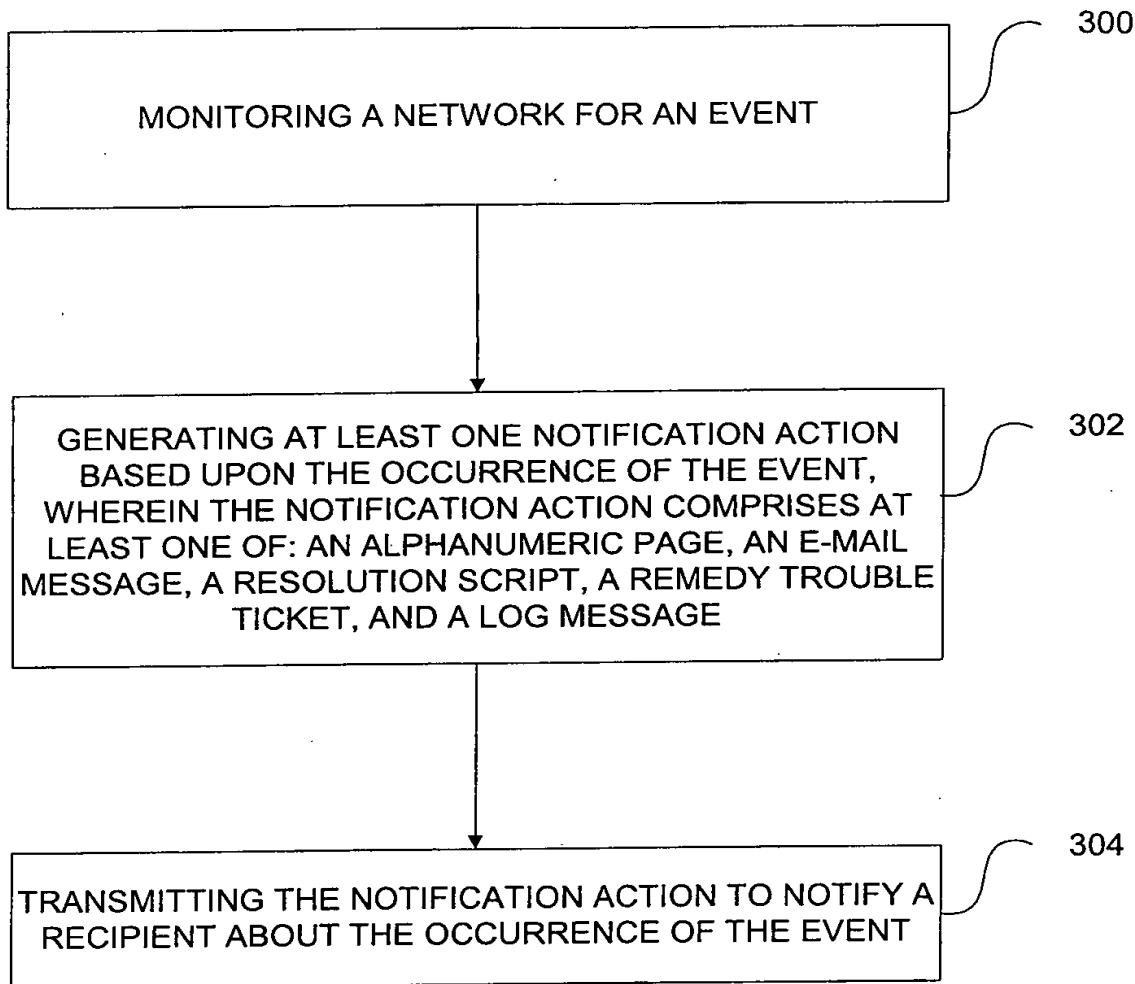


Figure 3

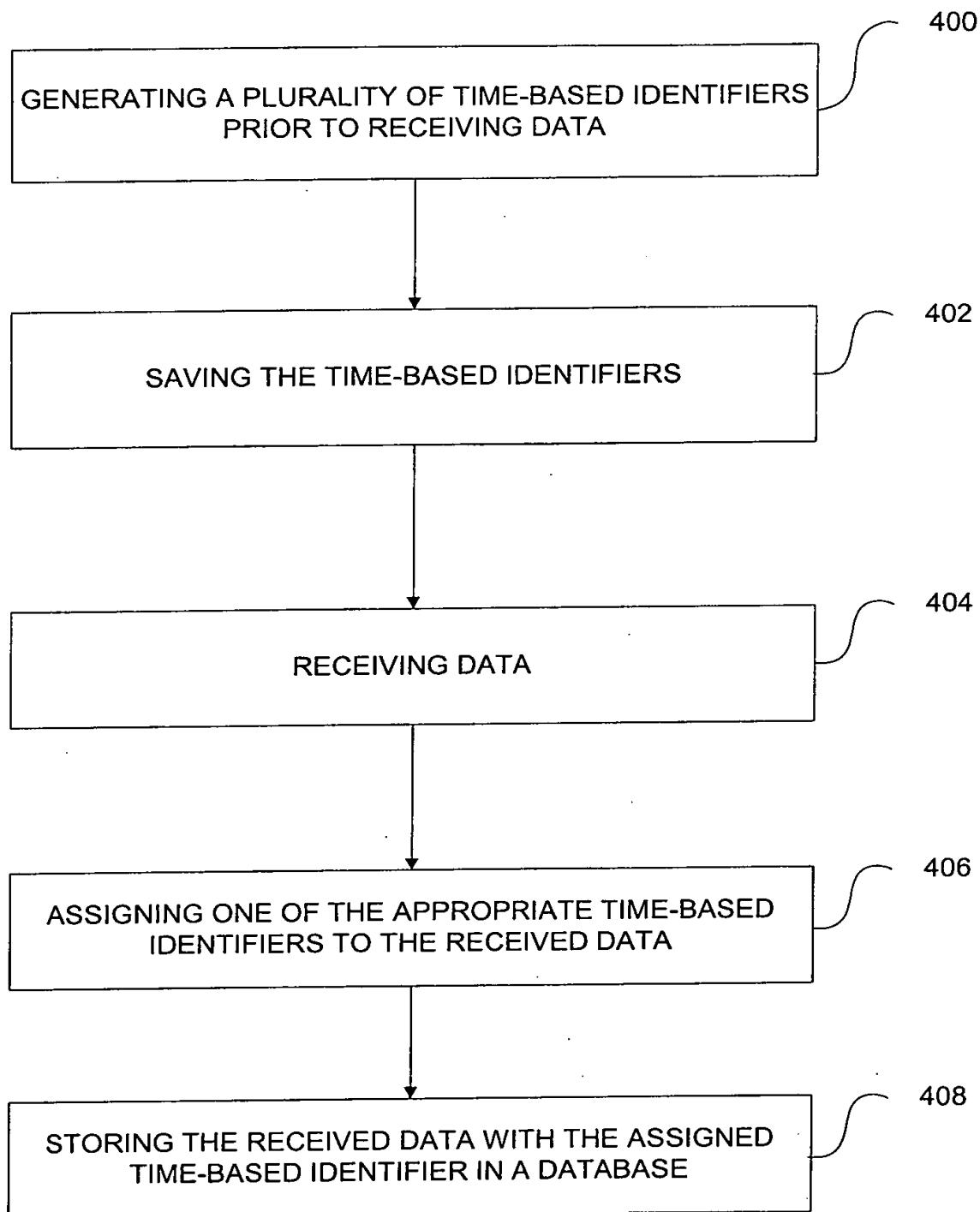


Figure 4

6542211 2222460

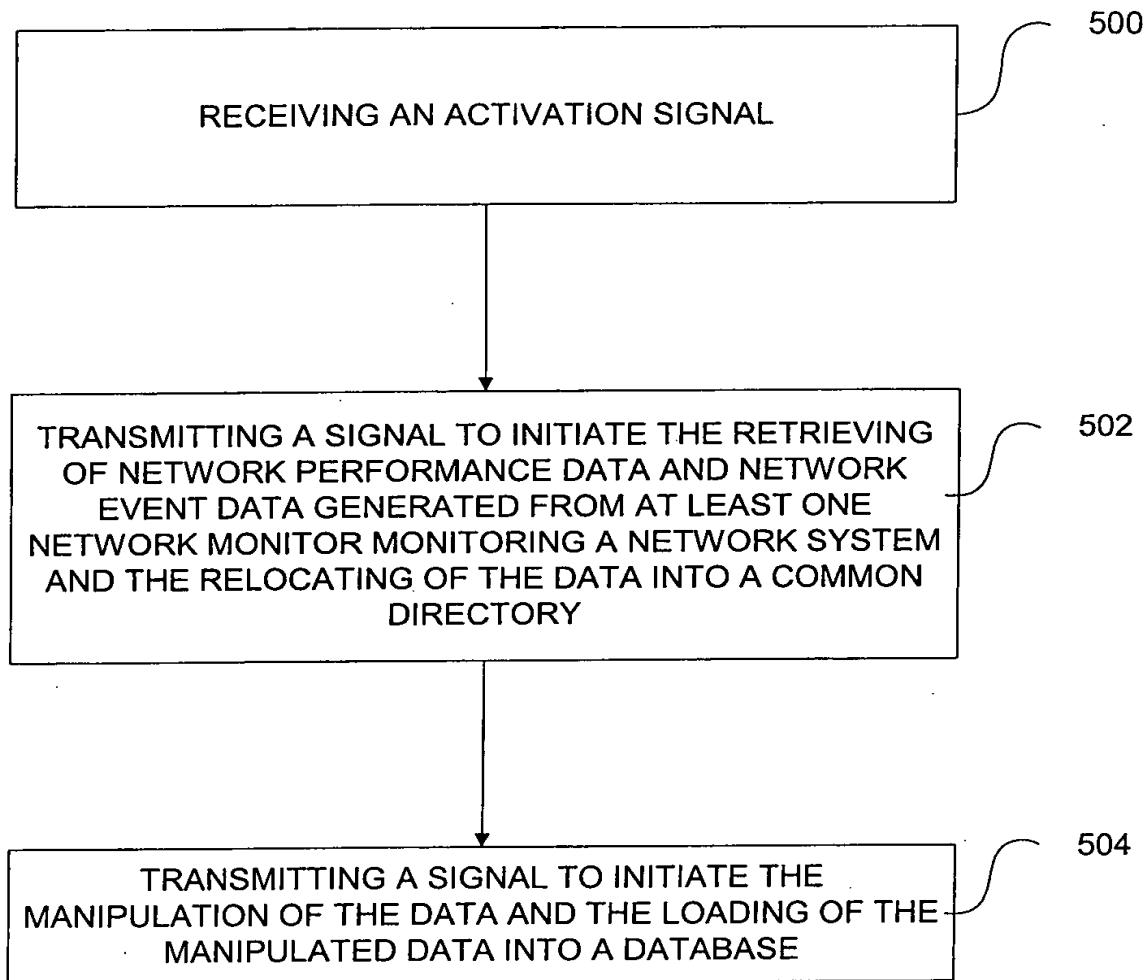


Figure 5

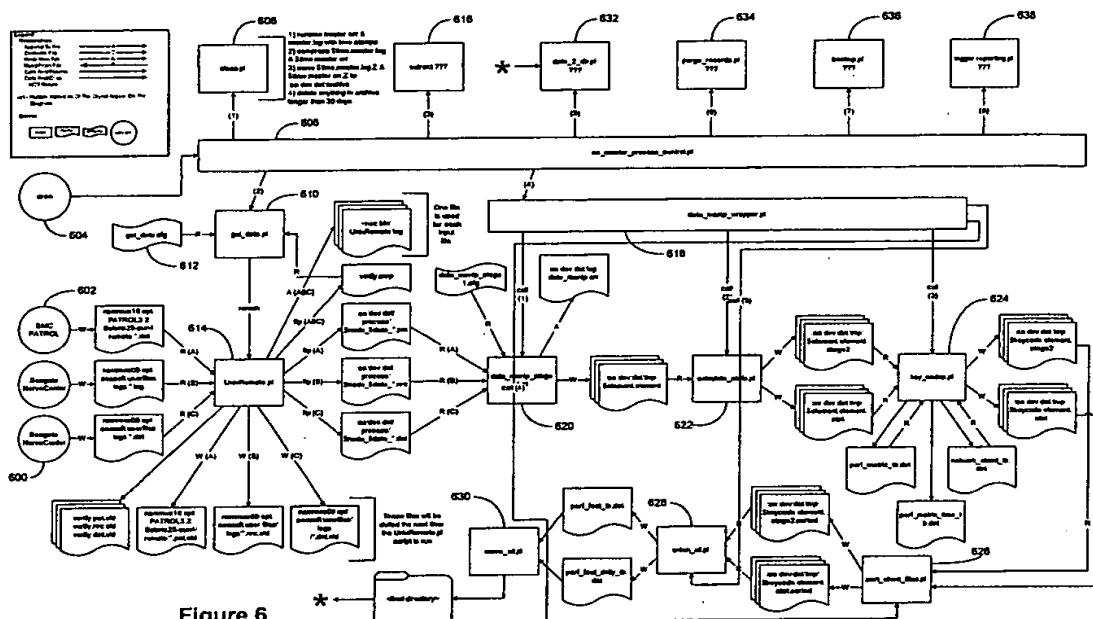


Figure 6

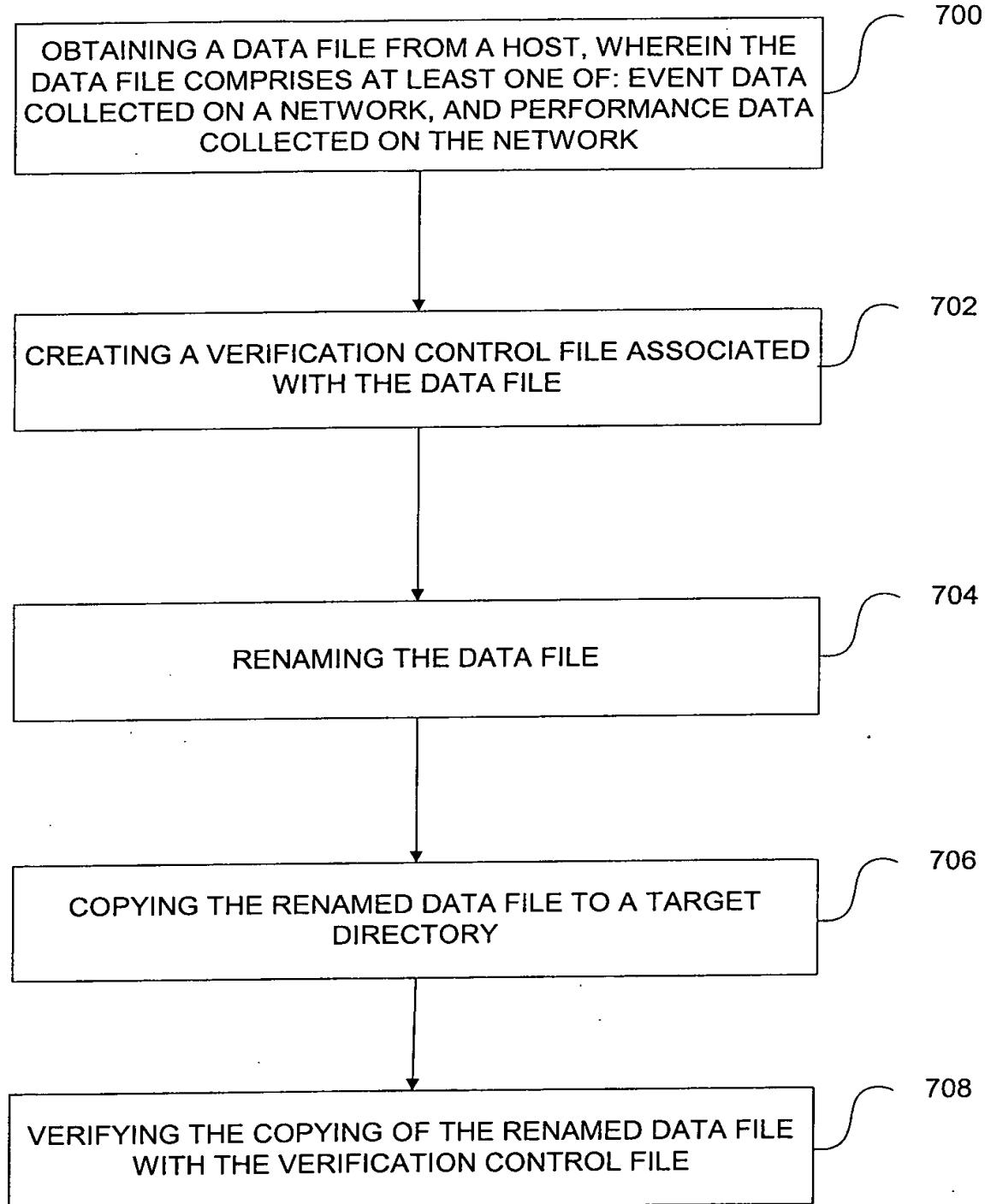
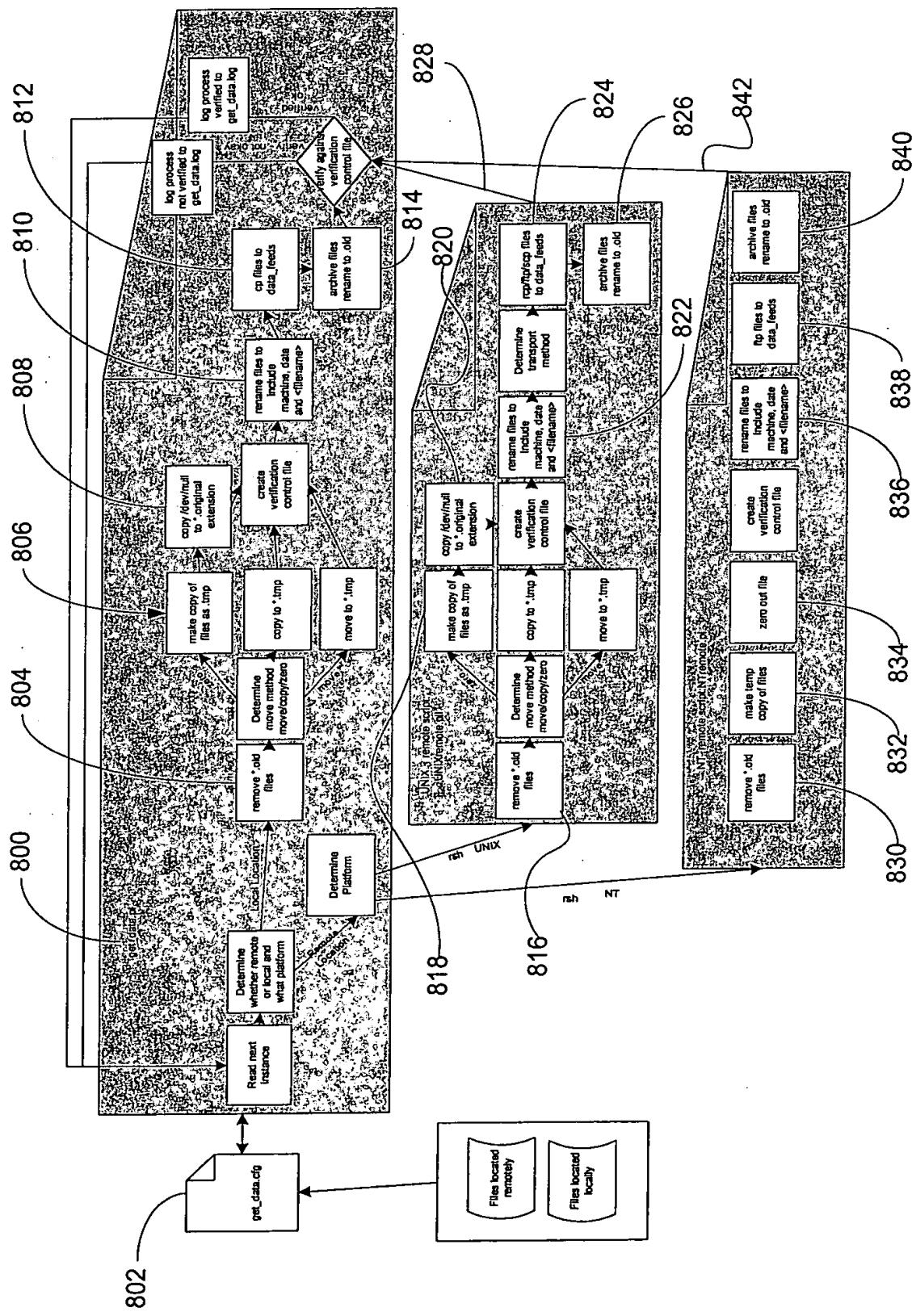


Figure 7

Figure 8



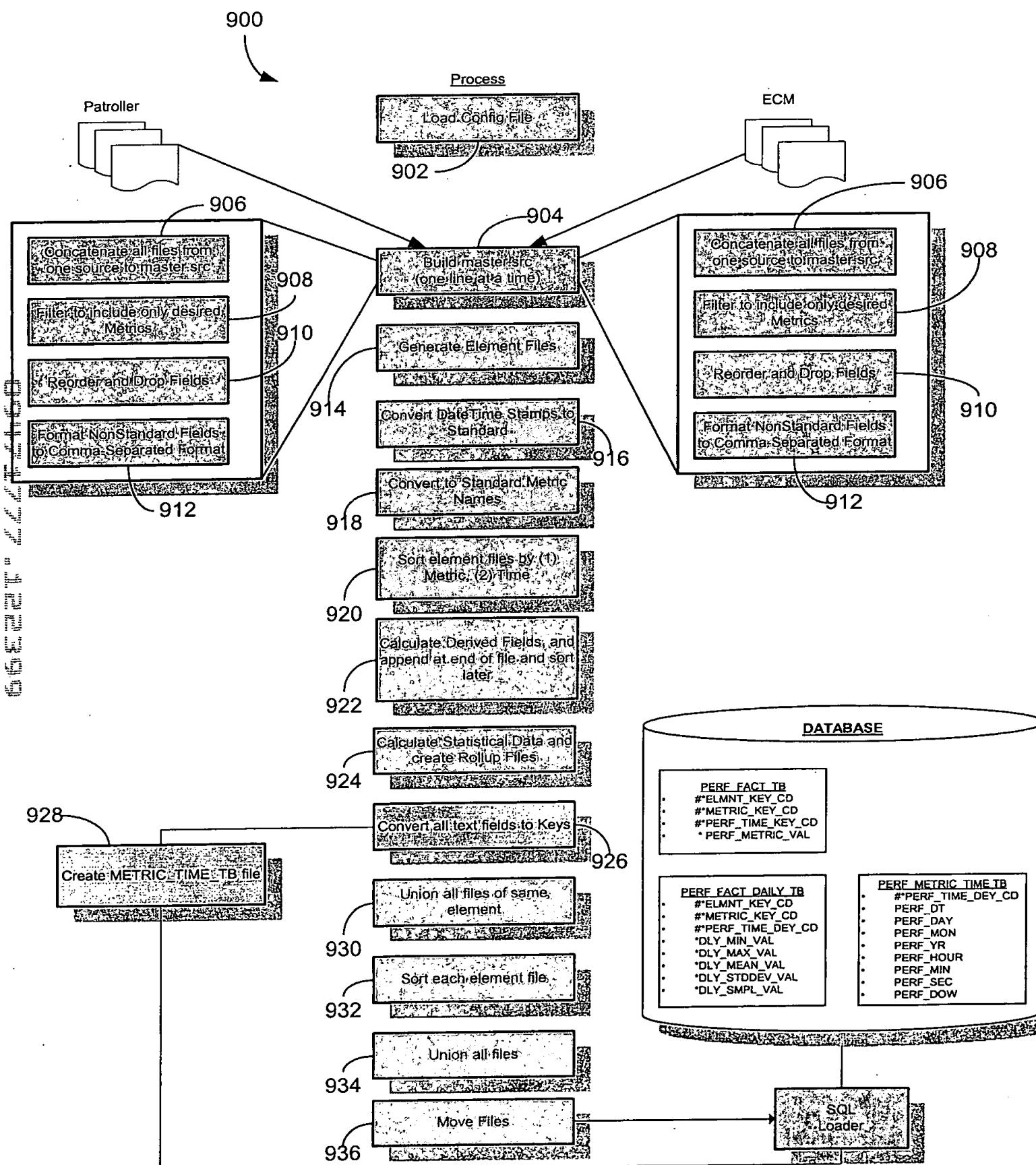


Figure 9

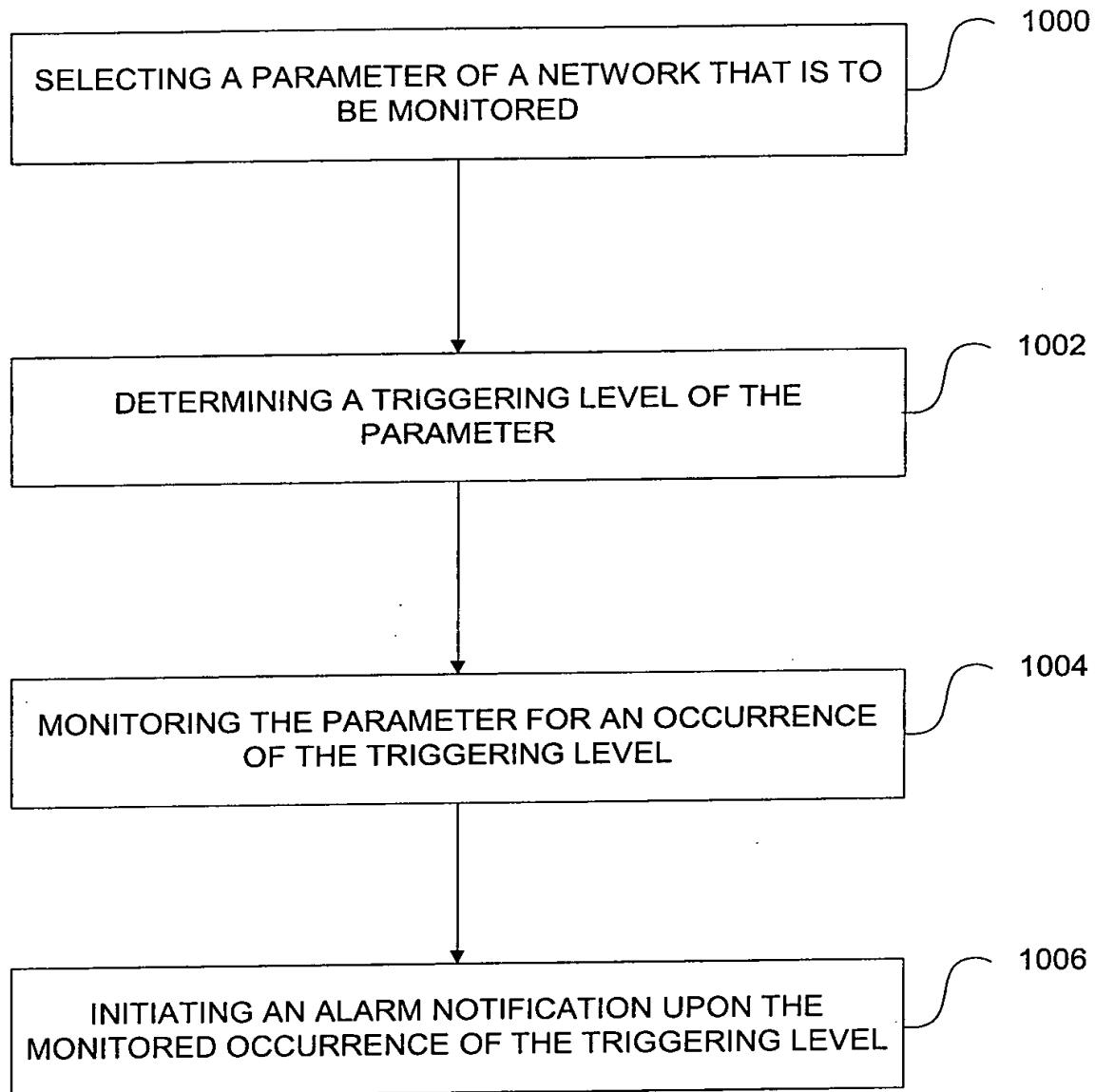


Figure 10

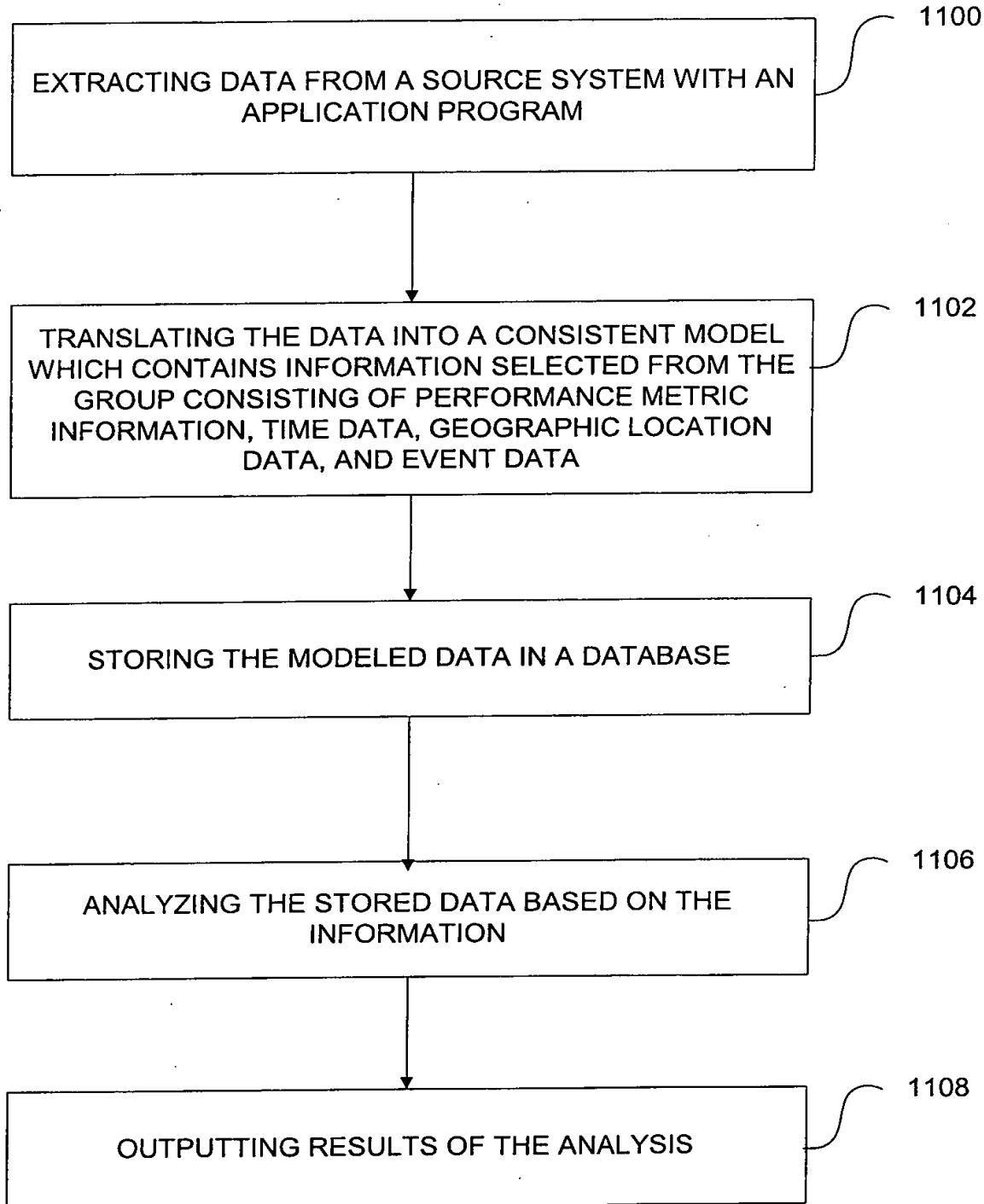


Figure 11

Tablespace	Default Status	Physical Requirements	Related Tablespace Relationships	Datafile	Size (MB)	Operating System	Database ID	Engine Location
PSADAT01	On-Line	Data only – No indexes	PSAIDX/Index tablespace	/file5/oradata/PSA01/PSA01ipsa.dat01.dat	100	HP-UX 10.2	IPSA01	
PSAIDX	On-Line	Index only	PSADAT01/data tablespace	/file4/oradata/PSA01idx01.dbf	20	HP-UX 10.2	IPSA01	
SYSTEM	On-Line		ALL	/file1/oradata/PSA01system01.dbf	60	HP-UX 10.2	IPSA01	
TEMP01	On-Line		ALL	/file3/oradata/PSA01tmp01.dbf	20	HP-UX 10.2	IPSA01	
RBS01	On-Line	Contains the 4 rollback segments for the database	ALL	/file2/oradata/PSA01rbs01.dbf	30	HP-UX 10.2	IPSA01	

Figure 12

Elements	2,000	2,500	5,000	10,000	20,000	50,000
Average Metrics/Element	10	10	10	10	10	10
Poll Frequency	100	100	100	100	100	100
Detail Data Retention	40	40	40	40	40	40
Daily Rollup Data Retention	400	400	400	400	400	400
<hr/>						
Detail Records/Day	2,000,000	2,500,000	5,000,000	10,000,000	20,000,000	50,000,000
Total Detail Records	80,000,000	100,000,000	200,000,000	400,000,000	800,000,000	2,000,000,000
Daily Rollup Records/Day	20,000	25,000	50,000	100,000	200,000	500,000
Total Daily Rollup Retained	8,000,000	10,000,000	20,000,000	40,000,000	80,000,000	200,000,000
Total Records	88,000,000	110,000,000	220,000,000	440,000,000	880,000,000	2,200,000,000
<hr/>						
Total Space/Table (bytes)						
ELMNT_LOC_TB	90,000	112,500	225,000	450,000	900,000	2,250,000
NETWORK_ELMNT_TB	204,000	255,000	510,000	1,020,000	2,040,000	5,100,000
PERF_FACT_DAILY_TB	208,000,000	260,000,000	520,000,000	1,040,000,000	2,080,000,000	5,200,000,000
PERF_FACT_TB	3,280,000,000	4,100,000,000	8,200,000,000	16,400,000,000	32,800,000,000	82,000,000,000
PERF_METRIC_TIME_TB	1,285,632,000	1,285,632,000	1,285,632,000	1,285,632,000	1,285,632,000	1,285,632,000
PERF_METRIC_TB	1,638	1,638	1,638	1,638	1,638	1,638
Total Space Needed (bytes)	4,773,927,638	5,646,001,138	10,006,368,638	18,727,103,638	36,168,573,638	88,492,983,638
Total Space Needed (MB)	4,662.04	5,513.67	9,771.84	18,288.19	35,320.87	86,418.93

Figure 13

Table	Column	Data Type	Column Size (bytes)	Row Size (bytes)	Space Used/Row (bytes)
ELMNT_LOC_TB	ELMNT_LOC_CD	Varchar2(5)	6		
	ELMNT_CITY_NM	Varchar2(30)	31		
	ELMNT_STATE_DBRV	Varchar2(2)	3	43	45
EVENT_CD_TB	EVENT_CD				
	EVENT_STRING				
	EVENT_AVAIL_TYPE				
	EVENT_PAIR			3	11
EVENTS_FACT_TB	ELMNT_KEY_CD	Number(10)	7		
	PERF_TIME_KEY_CD	Number(10)	7		
	EVENT_CD				
	EVENT_DURATION				
	EVENT_SEVERITY				
	EVENT_CLASS			17	19
NETWORK_ELMNT_TB	ELMNT_KEY_CD	Number(10)	7		
	ELMNT_NM	Varchar2(20)	21		
	ELMNT_TYPE_CD	Varchar2(2)	3		
	ELMNT_VNDR_NM	Varchar2(30)	31		
	ELMNT_VNDR_MDL	Varchar2(20)	21		
	ELMNT_VAL_DT	Date	8		
	ELMNT_LOC_CD	Varchar2(5)	6	100	102
PERF_FACT_DAILY_TB	ELMNT_KEY_CD	Number(10)	7		
	METRIC_KEY_CD	Number(10)	7		
	PERF_TIME_KEY_CD	Number(10)	7		
	DLY_MIN_AMT				
	DLY_MAX_AMT				
	DLY_MEAN_AMT				
	DLY_MEDIAN_AMT				
	DLY_STDDEV_AMT			24	26
PERF_FACT_TB	ELMNT_KEY_CD	Number(10)	7		
	PERF_TIME_KEY_CD	Number(10)	7		
	METRIC_KEY_CD	Number(10)	7		
	PERF_METRIC_VAL	Number(25,5)	15	39	41
PERF_METRIC_TB	METRIC_KEY_CD	Number(10)	7		
	METRIC_NM	Varchar2(30)	31		
	METRIC_SRC	Varchar2(20)	21		
	METRIC_INS	Varchar2(30)	31		
	METRIC_SUB_INS	Varchar2(30)	31	124	126
PERF_METRIC_TIME_TB	PERF_TIME_KEY_CD	Number(10)	7		
	PERF_DT	Date	8		
	PERF_DAY	Number(2)	2		
	PERF_MON	Number(2)	2		
	PERF_YR	Number(4)	3		
	PERF_HOUR	Number(2)	2		
	PERF_MIN	Number(2)	2		
	PERF_SEC	Number(2)	2		
	PERF_DOW	Varchar2(9)	10	370	372

Figure 14

Table	Time to Load (Direct)	Time to Load (Conventional)	Number of Rows Loaded	Amount of data (MB)	Comments
Empty Table	00:04:32	00:30:12	1,048,576	35	
1 mil rows in Table	00:06:29	00:32:57	1,048,576	35	Index was 10 MB larger for conventional load. This suggest some degree of fragmentation occurred during load which would require weekly index maintenance
Empty Table	00:14:49	01:31:47	3,145,728	106	
2 mil rows in Table	00:08:49	00:35:49	1,048,576	35	Index was 30 MB larger for conventional load. This suggest some degree of fragmentation occurred during load which would require weekly index maintenance
Empty Table	00:30:10	03:05:24	6,291,456	212	
3 mil rows in Table	00:22:52	01:33:15	3,145,728	106	Had to increase the size of the index tablespace in order for the new index and the old index to merge at the end of direct load.

Figure 15

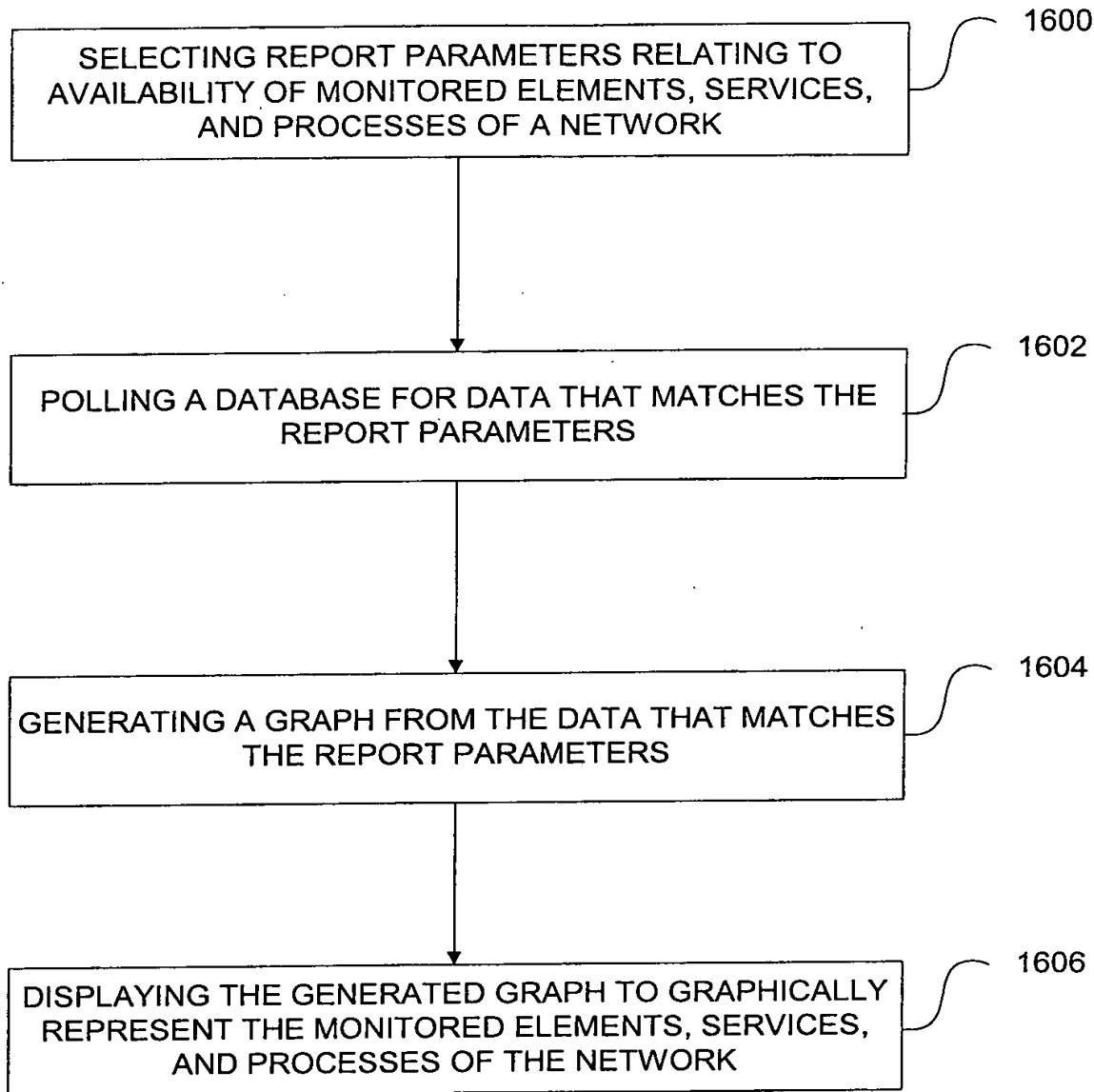


Figure 16

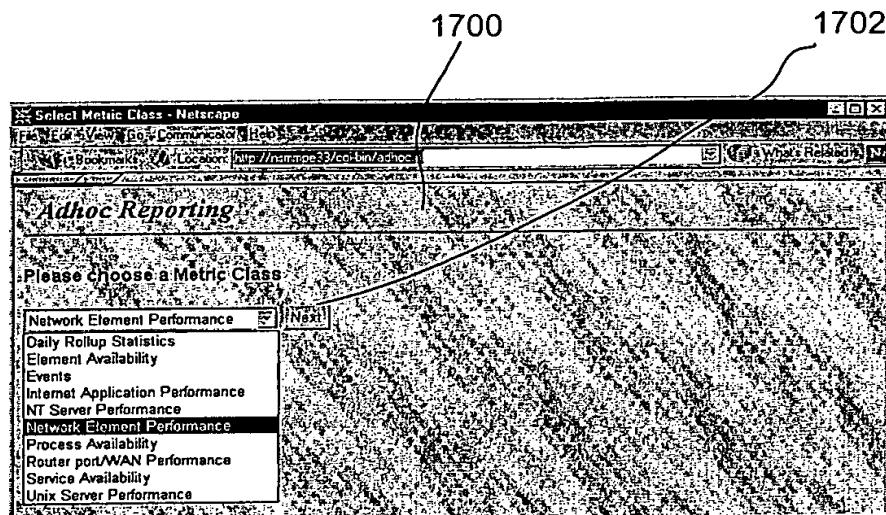


Figure 17A



Figure 17B

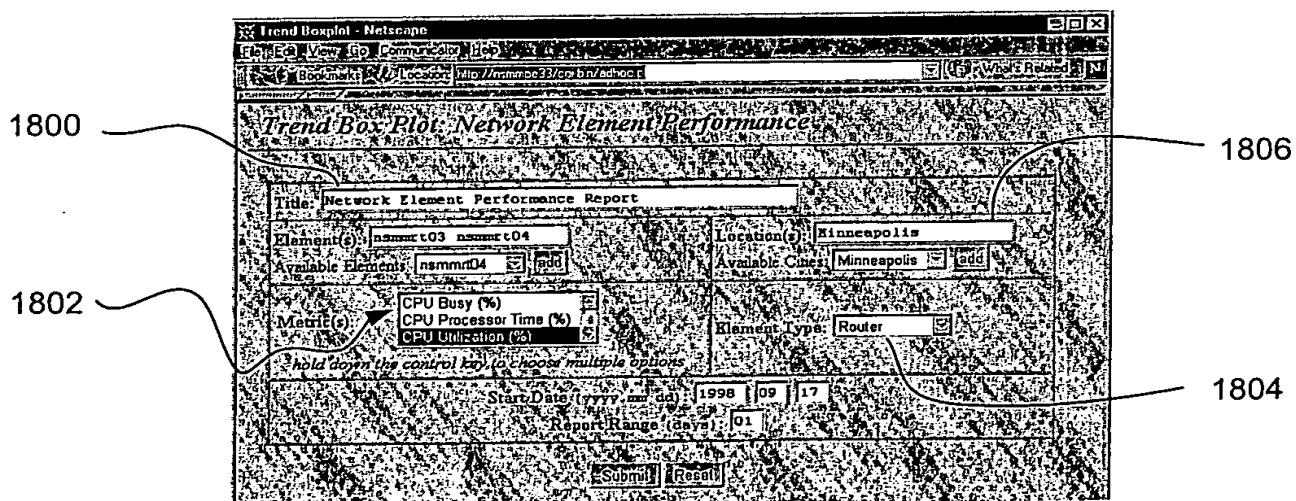


Figure 18

Figure	Notes	Generic Report Type	Graph Type	Description	Scope	X-axis Units	X-axis Range	Y-axis Units
1. "Object" may refer to an element, process, or service.								
Daily Detail			XY line graph	Shows all samples of a single metric from a single object over one day	1 object, 1 metric	Hours & minutes	24 hours	Metric value
Daily Detail, N Sub-objects			XY line graph	Shows all samples of multiple metrics from a single object over one day	n objects, 1 metric	Hours & minutes	24 hours	Metric value
Daily Object Comparison			Boxplot	Compares distributions of a single metric across multiple objects for one day	n objects, 1 metric	Objects	n objects	Metric value
Monthly Trend			Boxplot	Shows changes in distributions of a single metric over one month	1 object, 1 metric	Days	30 days	Metric value
Daily Availability Bar Chart			Bar graph	Compares percent availability for multiple services or objects for one day	n objects, 1 availability	Objects	n objects	Percent
Daily Exception Spectrum			Spectrum	Shows exceptions for multiple objects as points over time.	n objects, n exceptions	Hours & minutes	24 hours	Objects
Daily Exception Text Report			Text list	Text list of all events over one day, with columns for date-time, event string, code, and severity.	n objects, n exceptions	N/A	N/A	N/A
Daily Availability Spectrum*			Spectrum	Shows up/down status as a continuous color-coded line over time: red=down, green=up.	n objects, 1 availability	Hours & minutes	24 hours	Objects

Figure 21

1st Menu choice Select Metric Class default	2nd menu choice Select Report Type N/A	3rd menu choice Select Element(s) all	4th menu choice Select Location(s) all	5th menu choice Select Start date yesterday	6th menu choice # of days	7th menu choice Metrics(s)
Element Availability	Percent Availability Bar Graph	<element name>	<element location>	<start date>	<days>	N/A
Service Availability	Percent Availability Bar Graph	<element name>	<element location>	<start date>	<days>	<service>
Process Availability	Percent Availability Bar Graph	<element name>	<element location>	<start date>	<days>	<process>
Events	Exception Spectrum	<element name>	<element location>	<start date>	<days>	N/A
Network Element Performance	Detail XY Line Graph	<element name>	<element location>	<start date>	<days>	Cpu Utilization (bus/per)
	Trend Boxplot	<element name>	<element location>	<start date>	<days>	Cpu Utilization (bus/per)
	Comparison Boxplot	<element name>	<element location>	<start date>	<days>	Cpu Utilization (bus/per)
Router port / WAN Performance	Detail XY Line Graph	<element name>	<element location>	<start date>	<days>	Interface Utilization (finCpuOctects)
	Trend Boxplot	<element name>	<element location>	<start date>	<days>	Interface Utilization (finCpuOctects)
	Comparison Boxplot	<element name>	<element location>	<start date>	<days>	Interface Utilization (finCpuOctects)
Unix Server Performance	Detail XY Line Graph	<element name>	<element location>	<start date>	<days>	<instance>
	Trend Boxplot	<element name>	<element location>	<start date>	<days>	<instance>
	Comparison Boxplot	<element name>	<element location>	<start date>	<days>	<instance>
NT Server Performance	Detail XY Line Graph	<element name>	<element location>	<start date>	<days>	<instance>
	Trend Boxplot	<element name>	<element location>	<start date>	<days>	<instance>
	Comparison Boxplot	<element name>	<element location>	<start date>	<days>	<instance>
Internet Application Performance	Detail XY Line Graph	<element name>	<element location>	<start date>	<days>	Response Time
	Trend Boxplot	<element name>	<element location>	<start date>	<days>	Response Time
	Comparison Boxplot	<element name>	<element location>	<start date>	<days>	Response Time
Daily Rollup Statistics	Detail XY Line Graph	<element name>	<element location>	<start date>	<days>	<metric name>
						<rollup statistic> (min, max, mean, std dev, sample size)

SNMP/PATROL METRICS		DESCRIPTION	PLATFORM	UNITS
busyPer		Provides the percent of CPU usage over the first 5 second period in the scheduler.	Router	percentage
ifInOctets		The total number of octets received on the Interface, including framing characters.	Router Interface	octets
ifOutOctets		The total number of octets transmitted out of the interface, including framing characters.	Router Interface	octets
ifSpeed		An estimate of the interface's current bandwidth in bits per second. For interfaces which do not vary in bandwidth or for those where no accurate estimation can be made, this object should contain the nominal bandwidth.	Router Interface	bits per second
CPUcpuUtil		Displays the percentage of CPU utilization.	UNIX	percentage
MEMFreeMem		Displays the number of pages of memory available.	UNIX	pages
NETPacketsIn		Displays the total number of incoming packets within a sample interval.	UNIX	packets
NETPacketsOut		Displays the total number of outgoing packets within a sample interval.	UNIX	packets
DSkPercentBusy		Displays the percentage of time that the device is busy servicing a transfer request.	UNIX	percentage
CPUprcProcessorTimePercent		Displays a percentage of the elapsed time that a processor is busy executing a non-idle thread.	NT	percentage
MEMmemAvailableBytes		Displays the size of the virtual memory currently on the zeroed, free, and standby memory lists.	NT	megabytes
NETnPcktsPerSec		Displays the rate that the packets are sent and received on the network.	NT	packets per second
PDpdDiskTimePercent		Displays the percentage of elapsed time that the disk spends servicing read or write requests.	NT	percentage

Figure 22

Detail XY Line Graph

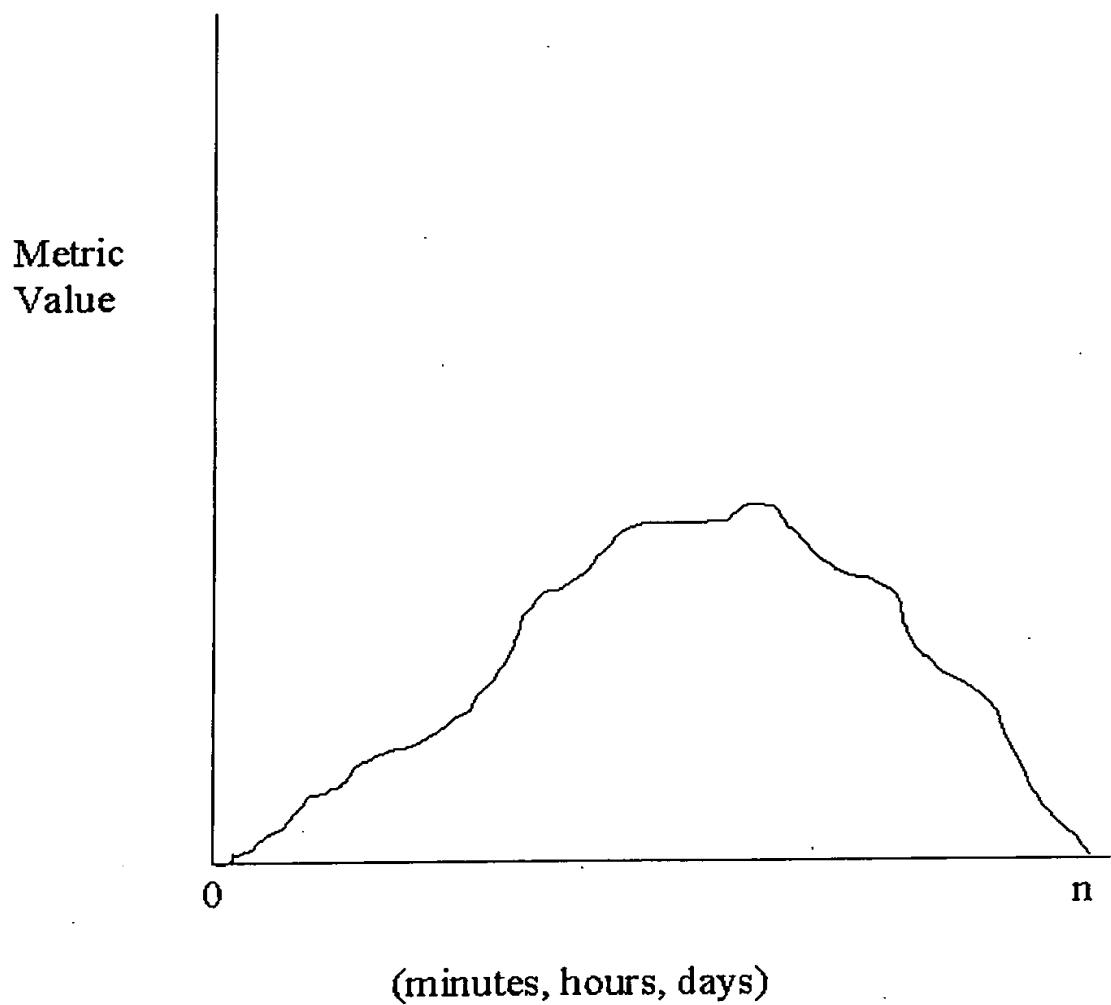


Figure 23

Detail XY Line Graph, n objects

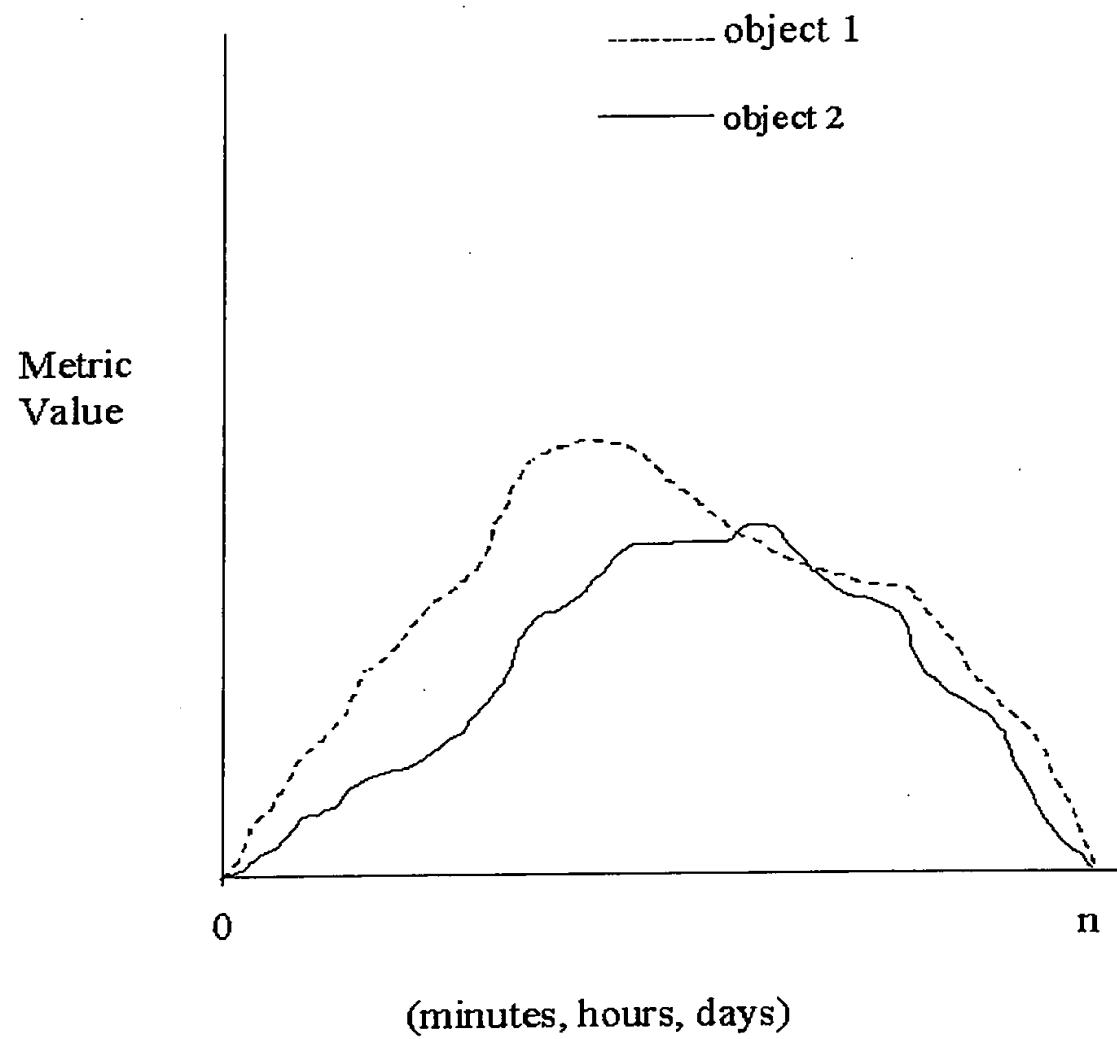


Figure 24

Comparison Boxplot

Representing samples taken from:

mm/dd/yyyy to mm/dd/yyyy

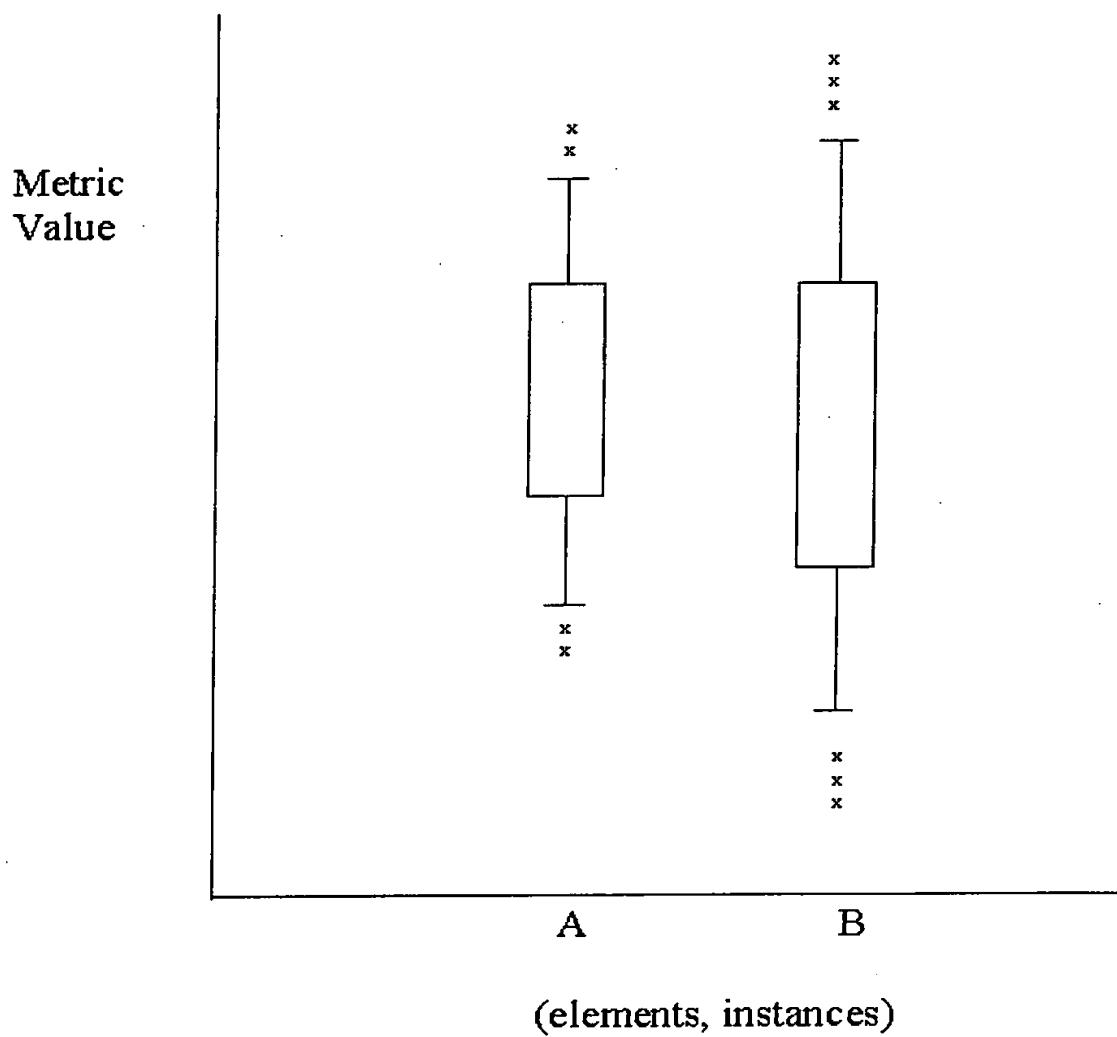


Figure 25

Trend Boxplot

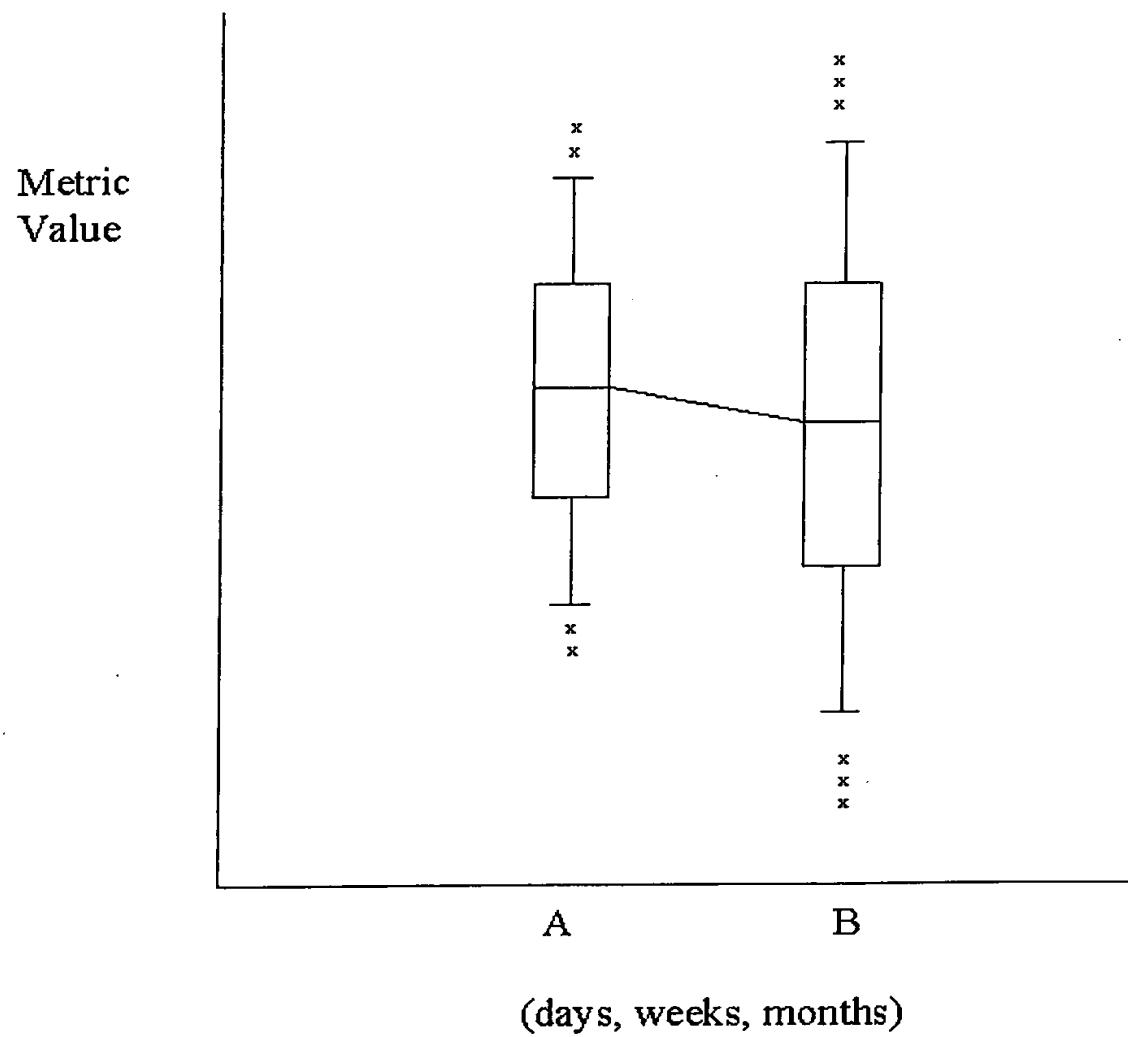


Figure 26

Percent Availability Bar Graph

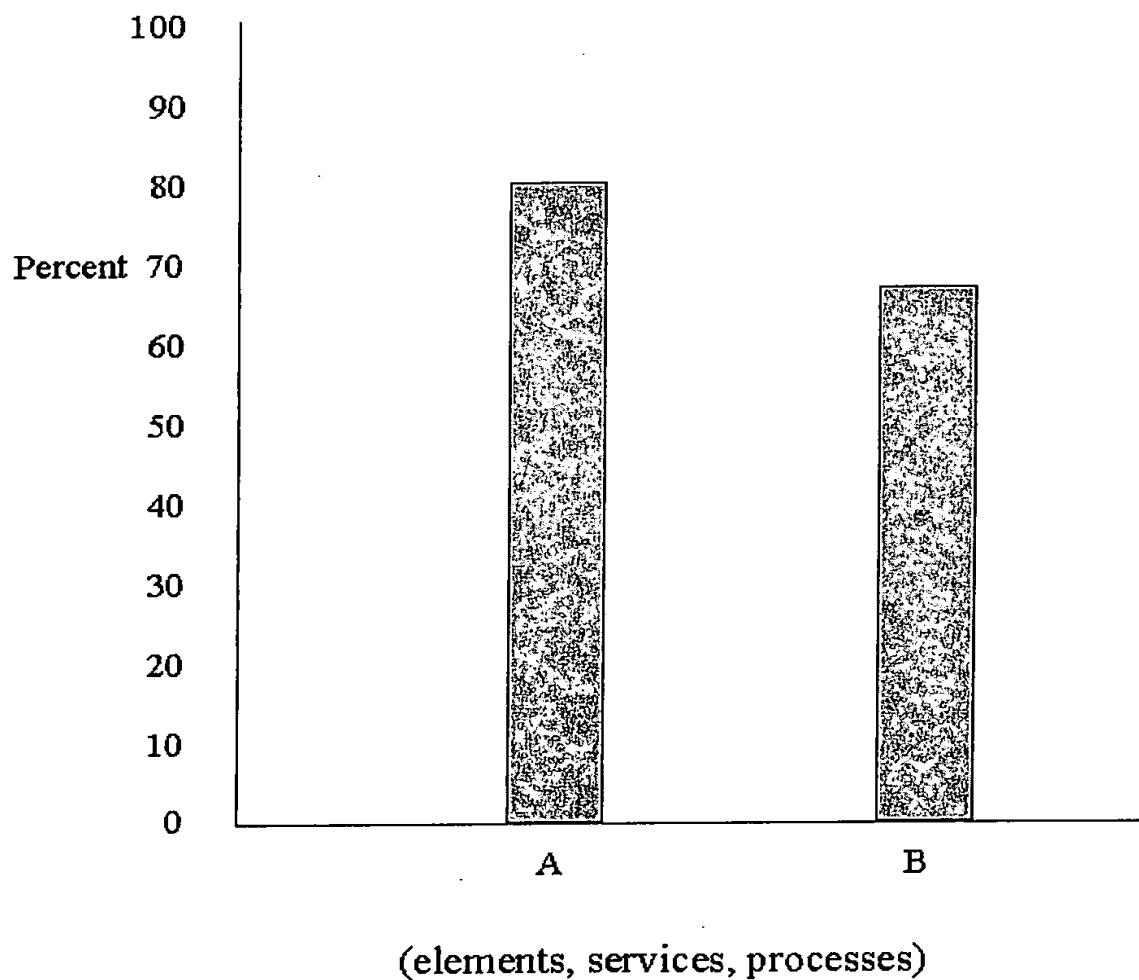


Figure 27

Availability Spectrum

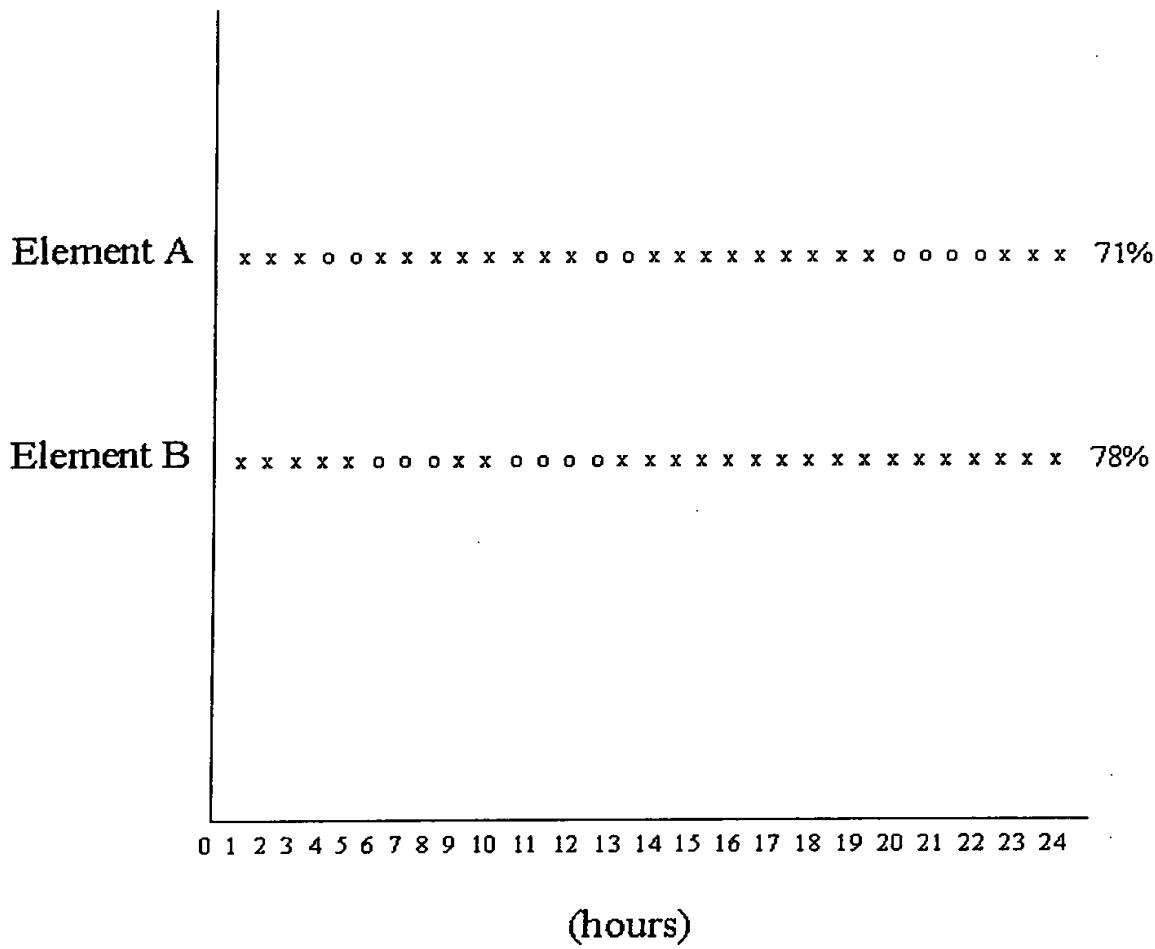


Figure 28

Exception Spectrum

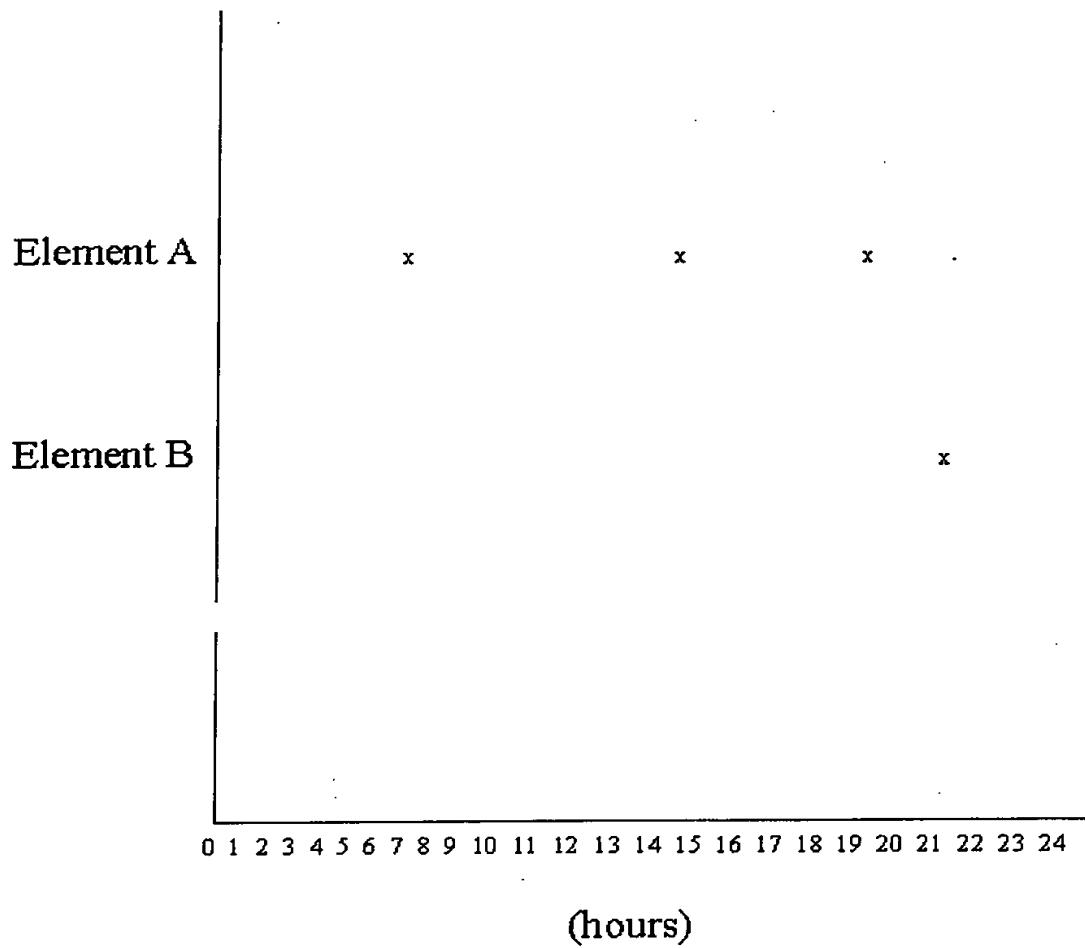


Figure 29

Exception Text Report

Date - Time	Element	Event string	Duration	Severity
01/12/1998 06:34:12	nsmmws16	CPU Utilization over 80% Critical		
01/12/1998 08:01:23	nsmmws09	Host down	3:24:43	Critical
01/12/1998 16:54:52	twmmnt02	FTP service down	0:19:42	Critical

Figure 30

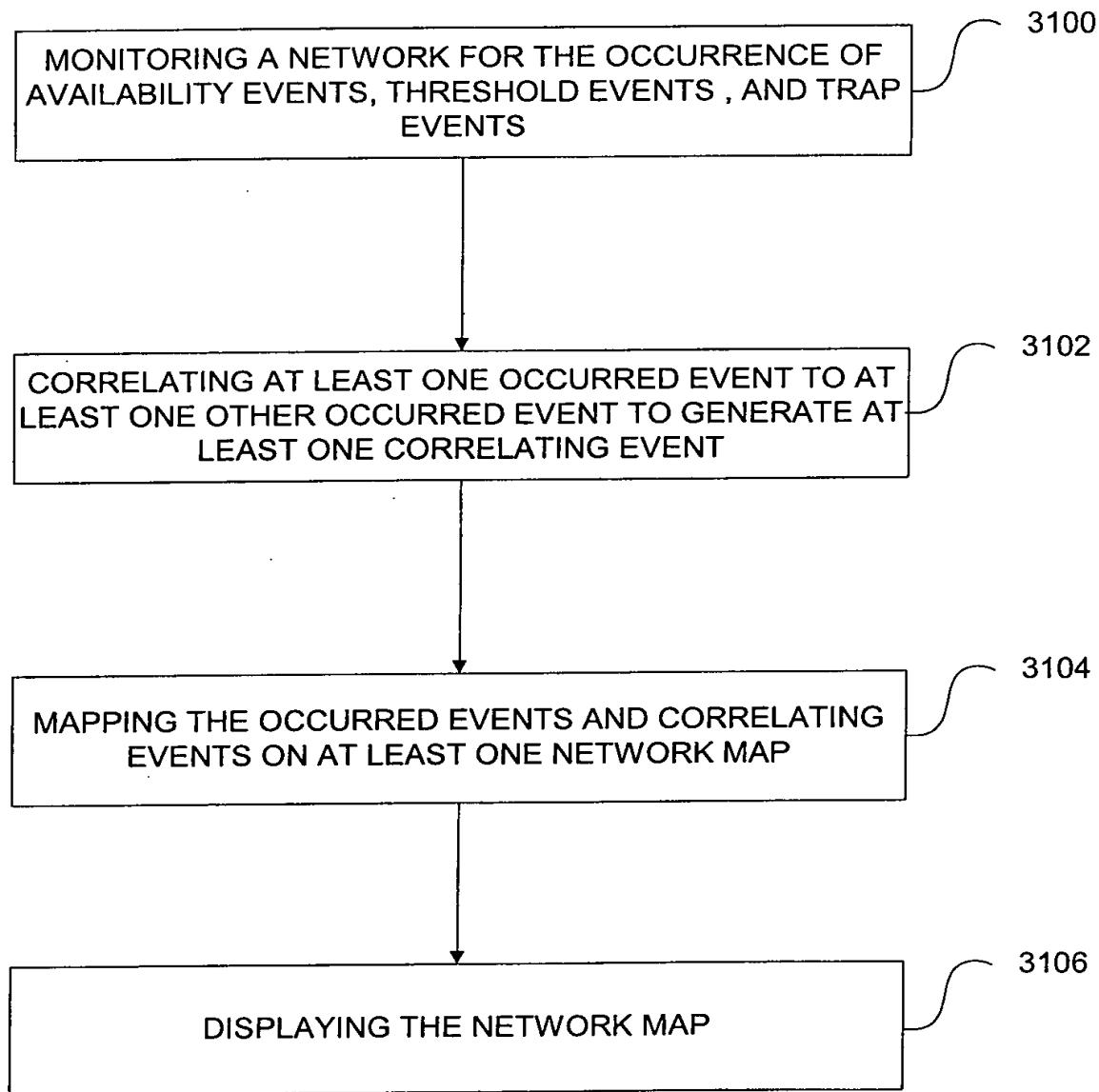
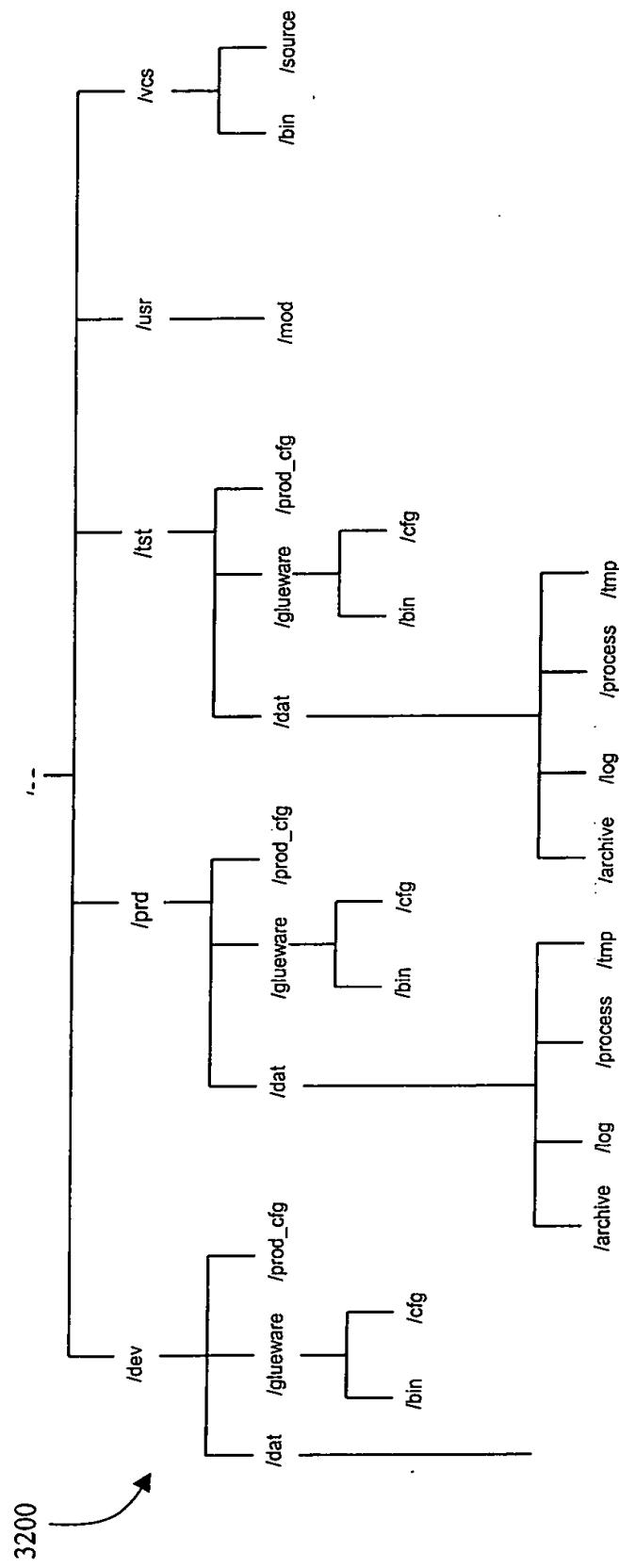


Figure 31



Current Settings/Valid Values

Directory structure will be stored on ucmmfs02

The directory /sa will be the mount point to
nsnmws09, nsnmws16, and twmldb02
Files owned by with group of twsa

Figure 32